



Broadcast Devices, Inc.

DOCKET FILE COPY ORIGINAL

5 Crestview Avenue • Peekskill, NY 10566 • (914)737-5032

RECEIVED

APR 20 1993

FCC - MAIL ROOM

April 19, 1993

The Federal Communications Commission
1919 M Street NW
Room 222
Washington, D.C. 20554

Dear Members of the Commission:

We respectfully submit the enclosed comments
for review in reference to ET Docket 92-298. the
matter of AM Stereo broadcast standards.

We hope that this information will be helpful
to you in your decision making process.

Sincerely,

Robert C. Tarsio
Secretary/Treasurer, Chief Engineer

No. of copies rec'd 0
List ABOVE

Reply Comments

Re: Docket ET Docket 92-298

From: Broadcast Devices, Inc.
5 Crestview Avenue
Peekskill, NY 10566

Tel. (914) 737-6779
Fax. (914) 736-6916

RECEIVED

APR 20 1993

FCC - MAIL ROOM

On the matter of the Federal Communications Commission selection of a standard for AM Stereo broadcasting, we respectfully submit the following comments.

The selection of the Motorola AM Stereo System by the commission as a standard to be used in the United States and its possessions is in our opinion improper. We believe that important procedural and technical matters have not been carefully considered. Firstly, the F.C.C. adopted a marketplace approach nearly ten years ago on this matter. With respect to all five of the firms that submitted plans for an AM stereo system, it is patently unfair. In our opinion, it was also an error not to require receiver manufacturers to make receivers that were capable of decoding all AM stereo systems. This was demonstrated to be feasible by Kahn Communications, Sony, and Sansui Electric over ten years ago. Had these types of receivers been mandated from the time that the marketplace decision was made, AM broadcasters would have been freed to make an educated selection of AM stereo systems. A selection that would have been made after exhaustive testing of each stereo system available if the station so desired. This could have been done completely transparent to the listening public. aside of course from any deficiencies that would have been exhibited by the systems themselves. This was supposed to be how the marketplace approach was to work. The obviously inferior systems would have been rejected by the

broadcasting in general. The economy has been in the doldrums for very short time in comparison to the amount of time AM stereo equipment has been available to broadcasters. This has not been economics. Deep pocketed companies who own successful AM stations in major markets have rejected an inferior technology. If the management of these stations truly believed that ratings and revenues could be gotten by installing AM stereo equipment, they would have done so long ago. The fact of the matter is that many stations have removed the equipment after it was evident that degradation to the station signal was being caused.

This recent decision has been made by simply doing a head count. The company with the most equipment on the air wins. The American radio listener loses. He or she loses because fundamental research data which proves that the Kahn-Hazeltine AM Stereo System is superior to any of the phase sensitive systems has been overlooked or ignored in favor of a political solution.

We believe that there are fundamental engineering considerations that have not been given the proper attention. Firstly, the Motorola technology uses phase separation to create stereo. This has proven in over ten years of use to be subject to unacceptable interference. The mechanism as to how this happens has long been known to broadcasters as well as engineers at the commission. Real world problems such as co channel interference and selective fading have rendered phase separated AM stereo signals useless. This is common knowledge among broadcast engineers. Secondly, the Motorola system produces unacceptable distortion and noise to stereo as well as monaural receivers. It has also been known for some time that the system when properly installed and adjusted, cannot produce 100% monaural modulation under all modulation conditions. Attempts to make 100% modulation levels as measured by a modulation monitor result in high distortion and splatter to adjacent channels. It seems that something has been missed here. The system is not monaural compatible under all modulation conditions. As I recall, one of the requirements for AM stereo proposals was that there would be no compromise to the existing monaural reception of a station using any form of AM stereo. In addition, allowing adjacent channel splatter to occur under any condition is unacceptable.

The Kahn-Hazeltine system suffers from none of these problems. In fact, independent sideband modulation and detection techniques can be used to make a more intelligent generation of AM receivers. Receivers that can take advantage of independent sideband selectivity which can reduce perceived adjacent channel interference. Compatible Single Sideband Amplitude Modulation takes advantage of sideband selectivity. Kahn Communications has been a pioneer

in this technology having had nearly forty years of experience in working with such systems. As you are well aware, key technology that makes CSSB work is used in the Kahn-Hazeltine AM Stereo signal. This is a field proven technology with over thirty years of use in the field.

In conclusion, we at Broadcast Devices, Inc. respectfully ask members of the Federal Communications Commission to carefully consider this matter. We have a great deal of respect for Kahn Communications, Hazeltine Corporation, Motorola and members of the Federal Communications Commission. All four entities have contributed much to the state of the art of communications. However, decisions such as AM stereo standards should be made on technical merit and not by which company's name is a household word. We recommend that the marketplace decision that was arrived at nearly a decade ago be allowed to properly function. We recommend that all makers of AM radios be required to incorporate multi system decoders in their new equipment. This would allow the marketplace to work the way it was originally intended to.

Respectfully Submitted By:

A handwritten signature in black ink, appearing to read "R. Tarsio". The signature is fluid and cursive, with a large initial "R" and a stylized "Tarsio".

Robert C. Tarsio
Secretary/Treasurer, Chief Engineer

cc: Leonard Kahn